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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,895	10/30/2001	Peter M. Gulvin	109177	2331

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EXAMINER

SORKIN, DAVID L

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/682,895

Applicant(s)

GULVIN, PETER M

Examiner

David L. Sorkin

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-15, 19-22 and 33-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-15, 19-22 and 33-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) N/A. 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 22 and 36 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. While claim 19, from which claims 22 and 36 depend requires that "the micromachined layer of polysilicon consists of a series of substantially parallel beams", claims 22 and 36 require that the layer comprise non-parallel beams.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 12-15, 19-22 and 33-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. These claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Particularly:

4. Amended independent claims 12 and 19 now recite "each layer that comprises the micromachined filter consists of a series of substantially parallel beams" and "consists of a series of substantially parallel beams". It is considered that there is insufficient support in the originally filed specification for this new "consisting of"

language. While paragraph [0030] states “in various embodiments, the first beams and the second beams are formed in separate layers so that they do not actually intersect” and paragraph [0040] states “the first beams 110 and the second beams 112 may be formed in separate layers so that they do not actually intersect”, there is no disclosure of excluding additional structure (in addition to the first and second beams) from the layers. To the contrary, according to, for example, paragraph [0045] the first and second polysilicon layers are “etched to form other structures” such as electrode 222, ejector plate 232 and springs 234. To illustrate the importance of the lack of support for the new “consisting of” language, reference is made to Spencer (US Re 29,524), which discloses a filter comprising a first layer otherwise “consisting of” a plurality of parallel beams (16) but having a peripheral support region (18) and a second layer otherwise “consisting of” a plurality of parallel beams but having a peripheral support region (see Figs. 1 and 3). Though the instant claims are not anticipated by this reference because the layers do not “consist of” parallel beams, but additionally have a peripheral support region (18), the instant specification as filed does not provide support for excluding such a support region from the layers.

5. Similarly, the new limitations in independent claims 13 and 20, “each layer that comprises the micromachined filter consists of a series of substantially parallel columns” and “consists of a series of substantially parallel column”, are considered to be insufficiently supported. The specification merely states in paragraph [0070], “[t]he second and fourth polysilicon layers 720 and 740 may comprise a plurality of columns 722” (emphasis added). Also, regarding claim 13, while the second and fourth layers

may have columns, such is different from "each layer" having columns. There is no disclosure of "each layer" of a filter comprising column (let alone consisting of columns).

6. Additionally, the contradictory aspect of claims 22 and 36 is considered to be neither enabled nor described by the originally filed specification. While claim 19, from which claims 22 and 36 depend, require that "the micromachined layer of polysilicon consists of a series of substantially parallel beams", claims 22 and 36 require that the layer comprise non-parallel beams.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 22 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of these claims is unclear because they contradict independent claim 19 from which they depend. While claim 19 requires that "the micromachined layer of polysilicon consists of a series of substantially parallel beams", claims 22 and 36 require that the layer comprise non-parallel beams.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 12, 13, 15, 19, 20, 22, 34, 36-38 and 41-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Fleming (US 6,503,409). Regarding claim 12, Fleming ('409) discloses a micromachined filter system comprising a microdevice having a plurality of layers (401, 403) formed over a substrate (400); and a micromachined filter integrated into the layers wherein, each layer (401,403) consist of a series of substantially parallel beams (see Fig. 4). Regarding claim 13, Fleming ('409) discloses a micromachined filter system comprising a microdevice having a plurality of layers (401, 403) formed over a substrate (400); and a micromachined filter integrated into the layers wherein, each layer (401,403) consist of a series of substantially parallel columns (see Fig. 4). Regarding claim 14, the filter comprises a first series of substantially parallel beams formed in a first micromachined layer (401) and a second series of parallel beams fomed in a second micromachined layer (403), the first and second series of beams extending in non-parallel directions with respect to one another (see Fig. 4). Regarding claim 19, Fleming ('409) discloses a filter comprising a micromachined layer (401) of polysilicon (see col. 6, lines 53-54); wherein the micromachined layer of polysilicon consists of a series of substantially parallel beams (see Fig. 4). Regarding claim 20, Fleming ('409) discloses a filter comprising a micromachined layer (401) of polysilicon (see col. 6, lines 53-54); wherein the micromachined layer of polysilicon consists of a series of substantially parallel columns (see Fig. 4). While it is unclear what is being claimed in claim 22, the filter comprises a first series of substantially parallel beams formed in a first micromachined polysilicon layer (401) and a second series of parallel beams fomed in a second micromachined

polysilicon layer (403), the first and second series of beams extending in non-parallel directions with respect to one another (see Fig. 4). Regarding claims 34 and 36-38, the layers are polysilicon (see col. 6, lines 53-54). Regarding claims 41-44 the microdevice has an inlet (for example 501) through the substrate and the micromachined filter is situated downstream of the inlet and situated over the inlet.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming ('409), discussed above. Fleming ('409) does not explicitly disclose with being "at least about 1 micron". However, it is stated in col. 5, lines 8-9 that size "can be tailored for specific purposes".

Response to Arguments

13. Applicant correctly points out the previously applied reference does not disclose the "consisting of" aspect of the amended claims. However, applicant's arguments are moot due to the new grounds for rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

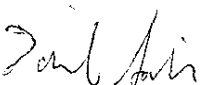
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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David Sorkin


W. L. WALKER
SUPERVISORY PATENT EXAMINER
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